

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference GC821 - 2 - PCT	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2004/040438	International filing date (day/month/year) 03/12/2004	(Earliest) Priority Date (day/month/year) 03/12/2003
Applicant GENENCOR INTERNATIONAL, INC.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☒ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☒ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 7

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☒ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

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Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

a. type of material

☒

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☒

in written format

☒

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed

☐

filed together with the international application in computer readable form

☒

furnished subsequently to this Authority for the purpose of search

2.

☒

In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3.

Additional comments:

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
4,119, 20 (completely); 1-3,5-7,68,70-84,86,87,118,121-125,127-135,153-158
163-166 (partially)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: claim 4, 119 and 120 completely, and claim 1-3,5-7,68,70-84,86,87,118,121-125,127-135,153-158,and 163-166 partially

A perhydrolase protein comprising the sequence represented in SEQ.ID.2, nucleic acids encoding it, and composition comprising it.

Inventions 2-188: claims 13,5-87,104-118, and 121-166, all partially and as far as applicable

Subject-matter essentially as defined for invention 1, but limited to mutants of SEQ.ID.2 at respectively positions 1-8,10-80,82-87,89,90,92,123-130,132,133,135,136,138,140-143,145-151,153,154,157,159,161,162,164-168,170-172,175,176,178,182-186,188,190-194,196-199,201-203,205,206 and 208-216.

Invention 189: claims 88-103 completely

Method for identifying a perhydrolase, proteins identified thereby, and nucleic acids encoding them.

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A. CLASSIFICATION OF SUBJECT MATTER

C12N9/16 C12N9/50 C12N9/52

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 359 087 A (THE CLOROX COMPANY) 21 March 1990 (1990-03-21) the whole document	
A	EP 0 268 456 A (THE CLOROX COMPANY) 25 May 1988 (1988-05-25) the whole document	
A	US 5 352 594 A (POULOUSE ET AL) 4 October 1994 (1994-10-04) the whole document	
A	EP 0 375 102 A (THE CLOROX COMPANY) 27 June 1990 (1990-06-27) the whole document	
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

3 June 2005

Date of mailing of the international search report

29. 11. 2005

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DATABASE UniProt [Online] 1 December 2001 (2001-12-01), "Hypothetical protein." XP002330234 retrieved from EBI accession no. UNIPROT:Q92XZ6 Database accession no. Q92XZ6 the whole document</p> <p>-----</p>	
A	<p>DATABASE UniProt [Online] 1 October 2001 (2001-10-01), "Arylesterase." XP002330235 retrieved from EBI accession no. UNIPROT:Q98MY5 Database accession no. Q98MY5 the whole document</p> <p>-----</p>	
A	<p>DATABASE UniProt [Online] 1 June 2003 (2003-06-01), "Lipase, GDSL family." XP002330247 retrieved from EBI accession no. UNIPROT:Q88KH2 Database accession no. Q88KH2 the whole document</p> <p>-----</p>	
P,X	<p>WO 2004/058961 A (HENKEL KOMMANDITGESELLSCHAFT AUF AKTIEN; WIELAND, SUSANNE; POLANYI-BAL) 15 July 2004 (2004-07-15) the whole document</p> <p>-----</p>	<p>1,7,118, 121-125, 134,135, 153,157, 163</p>

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Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0359087	A	21-03-1990	AU 2218492 A	07-01-1993
			AU 3672989 A	15-03-1990
			JP 2113097 A	25-04-1990
			JP 2729676 B2	18-03-1998

EP 0268456	A	25-05-1988	AR 245953 A1	30-03-1994
			AU 599436 B2	19-07-1990
			AU 8134087 A	26-05-1988
			DE 3776089 D1	27-02-1992
			ES 2030075 T3	16-10-1992
			GR 3004391 T3	31-03-1993
			JP 3077700 B2	14-08-2000
			JP 63148988 A	21-06-1988
			MX 166926 B	15-02-1993
			TR 23330 A	08-11-1989

US 5352594	A	04-10-1994	NONE	

EP 0375102	A	27-06-1990	AT 136927 T	15-05-1996
			DE 68926286 D1	23-05-1996
			DE 68926286 T2	09-01-1997
			ES 2087864 T3	01-08-1996
			JP 2225599 A	07-09-1990
			JP 2772564 B2	02-07-1998

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			DE 10260903 A1	08-07-2004
			EP 1572997 A1	14-09-2005
